Hawley's

Condensed Chemical Dictionary

Fourteenth Edition

Revised by

Richard J. Lewis, Sr.

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namic load. It is a measure of the softness or stiffness of the material (Young's modulus).

moellon degras. See degras.

mohair. A natural fiber, similar to wool, obtained from angora goats.
Properties: Tenacity 14 g/denier. Combustible.
Use: Fabrics for outer clothing, draperies, upholstery.

Mohr's salt. See ferrous-ammonium sulfate.

Mohs scale. An empirical scale of the hardness of mineral or mineral-like materials originally consisting of 10 values, ranging from talc, with a rating of 1, to diamond, with a rating of 10, the rating being based on the ability of each material to scratch the one directly below it in the series. The number of materials has been expanded from 10 to 15 with the addition of several synthetically produced substances (e.g., silicon carbide) between the original 9 and 10 positions. The scale is named after the German mineralogist, Friedrich Mohs (1773–1839).
See hardness (1).

moiety. An indefinite portion of a sample.

Moissan, Henri. (1852–1907). A Native of Paris, Moissan was a professor at the School of Pharmacy from 1886 to 1900 and at the Sorbonne from 1900 to 1907. At the former institution, he first isolated and liquefied fluorine in 1886 by the electrolysis of potassium acid fluoride in anhydrous hydrogen fluoride. His work with fluorine undoubtedly shortened his life as it did that of many other early experimenters in the field of fluorine chemistry. He won great fame by his development of the electric furnace and pioneered its use in the production of calcium carbide, making acetylene production and use commercially feasible in the preparation of pure metals, such as magnesium, chromium, uranium, tungsten etc. and in the production of many new compounds, e.g., silicides, carbides, and refractories. In 1906, he was awarded the Nobel prize in chemistry.

molal. A concentration in which the amount of solute is stated in moles and the amount of solvent in kilograms. The unit of molality is moles of solute per kilogram of solvent and is designated by a small *m*, 1 mole of NaCl in 1 kg of solvent is a 1 molal concentration.
Note: Do not confuse with molar.

molar. A concentration in which 1 molecular weight in grams (1 mole) of a substance is dissolved in enough solvent to make one liter of solution. Molarity is indicated by an italic capital *M*. Molar quantities are proportional to the molecular weight of the substances.

molassess. The thick liquid left after sucrose has been removed from the mother liquor in sugar manufacture. Blackstrap molasses is the syrup from which no more sugar can be obtained economically. It contains approximately sucrose 20%, reducing sugars 20%, ash 10%, organic nonsugars 20%, water 20%. Combustible.
Use: Feed, food, raw material for various alcohols, acetone, citric acid, and yeast propagation. Sodium glutamate is made from Steffens molasses, a waste liquor from beet sugar manufacture.
See fermentation.

mold. See fungus.

molding. Forming a plastic or rubber article in a desired shape by application of heat and pressure, either in a negative cavity, usually of metal, or in contact with a contoured metal or phenolic resin surface.
See injection molding; blow molding; compression molding.

molding powder. A mixture in a granular or pelleted form of a plastic base material together with necessary modifying ingredients (filler, plasticizer, pigment, etc.). Such mixtures are normally prepared by resin manufacturers and sold as such to processors ready for use in injection molding or extrusion operations.

molding sand. See foundry sand.

mold preventive. See mildew preventive.

mold release agent. See abherent.

mole. The amount of pure substance containing the same number of chemical units as there are atoms in exactly 12 g of carbon-12 (i.e., 6.023×10^{23}). This involves the acceptance of two dictates–the scale of atomic masses and the magnitude of the gram. Both have been established by international agreement. Formerly, the connotation of "mole" was "gram molecular weight." Current usage tends to apply the term "mole" to an amount containing Avogadro's number of whatever units are being considered. Thus, it is possible to have a mole of atoms, ions, radicals, electrons, or quanta. This usage makes unnecessary such terms as *gram-atom, gram-formula* weight, etc. All stoichiometry essentially is based on the evaluation of the number of moles of substance. The most common involves the measurement of mass. Thus 25.000 g of water will contain 25.000/18.015 moles of water, 25.000 g of sodium will contain 25.000/22.990 moles of sodium. The convenient measurements on gases are pressure, volume, and temperature. Use of the ideal gas law constant R allows direct calculation of the number of moles: $n = PV/RT$. T is the absolute temperature, R must be chosen in units appropriate for P, V, and T. The acceptance of Avogadro's law is